UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,180	03/24/2004	Katsuhiko Hashimoto	108391-00038	4177

4372 7590 11/01/2007		EXAMINER
ARENT FOX LLP		TRAORE, FATOUMATA
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SUITE 400	ART UNIT	PAPER NUMBER
WASHINGTON, DC 20036	2136	

NOTIFICATION DATE	DELIVERY MODE
11/01/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/807,180	HASHIMOTO ET AL.
	Examiner	Art Unit
	Fatoumata Traore	2136

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *26 September 2007*.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-3 and 5-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-3 and 5-15* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *09/26/2007*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   This is in response to the amendment filed on September 26th, 2007. Claims 1-3,

5-8, and 10-15 have been amended. Claims 4, 16-30 have been cancelled. Claims 1-3

and 5-15 are pending and have been considered below.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

2.   Claims 1-3, 5-8, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated

by Imamura et al (US2002/0116551).

Claims 1, 15: Imamura et al discloses a data storage device and system and a

control method comprising:

i.   A first data area that stores first data that are not encrypted (Fig. 2

Data area);

ii.   A second data area that stores second data that are not encrypted

(Fig. 2 medium information management area);

iii.   A third data area that stores third data that is input from outside (the

medium identifier recorded in the storage)(paragraphs [0083], [0084],

[0121], [0135]);

iv.   A fourth data area that stores fourth data that are obtained by

encrypting the second data (In the above described embodiments of the

present invention, the security information (a device identifier, an address

information, a password, etc.) to be recorded in the security area may be

encoded to enhance the secrecy) (paragraphs [0122], [0123], [0125],

[0131], [0167], [0168]); and

v.   A controller that allows reading or writing of the first data when the

third data matches with the second key-data, wherein the third data is

obtained by decrypting the fourth data (FIG. 27 is a flowchart for the

medium loading process performed when the security information includes

a password in FIG. 26. In FIG. 27, step S1910 is added to the flowchart in

FIG. 26. Specifically, when the security information is decoded at step

S1906, a password, which is input, is compared with a password included

in the security information. When the two passwords do not match, the

security is not released, and the reading and the writing of data to the

medium are inhibited (step S1908). When the passwords match, the

process advances to step S1907, whereat comparison of the medium

identifiers is performed as described above) (paragraphs [0125],

[0128],[0171]).

Claim 2: Imamura et al discloses a data storage device and a control method as

in claim 1 above, and further comprises a comparing unit that compares the third

data with the second key data, wherein the controller allows the reading or the

writing of the first data based on the result of comparison performed by the

comparing unit (a controller for comparing said first identifier with said second

identifier and said first address information with said second address information,

and controlling to access to said memory medium for data reading and/or writing

according to a relationship between said first identifier and said second identifier
and a relationship between said first address information and said second
address information)(paragraphs [0012], [0020]).

Claim 3: Imamura et al discloses a data storage device and a control method as
in claim 2 above, and further discloses if the third data match the second key-
data, the comparing unit authorizes the reading or the writing of the first data
(when the first and the second identifiers match, the controller permits access to
the memory medium for reading and writing of data) (paragraphs [0013], [0014],
[0086]; Fig. 15 steps S907 and S909; Fig. 16 steps S907 and S909), and if the
third data do not match the second key data, the comparing unit inhibits the
reading and the writing of the first data(when first identifier recorded in the
storage unit does not match the second identifier recorded on the memory
medium, the controller inhibits access to the memory medium for reading and
writing of data)(paragraphs [0013], [0014], [0086]; Fig. 15 steps S907 and S908;
Fig. 16 step S907 and S909).

Claim 5: Imamura et al discloses a data storage device and a control method as
in claim 2 above, and further discloses that the controller allows the reading or
the writing of the fourth data based on the result of comparison performed by the
comparing unit data (when the first and the second identifiers match, the
controller permits access to the memory medium for reading and writing of data)
(paragraphs [0013], [0014]; Fig. 15 steps S907 and S909; Fig. 16 steps S907
and S909).

Claim 6: Imamura et al discloses a data storage device and a control method as in claim 5 above and further discloses if the third data match the second key data, the comparing unit authorizes the reading or the writing of the fourth data (paragraphs [0013], [0014]; Fig. 15 steps S907 and S909; Fig. 16 steps S907 and S909), and if the third data do not match the second key data (Fig.22 step S1506), the comparing unit authorizes only the reading but inhibits the writing of the fourth data (Fig. 22 step S1511).

Claim 7: Imamura et al discloses a data storage device and control method as in claim 1 above and further comprising a fifth data area that stores fifth data that indicate whether the second data is stored in the second data area (At step S105, a check is performed to determine whether the security area is in the initial state. When the security area is in the initial state, i.e., when no device identifier has been recorded in the security area, the process then advances to step S108, whereat the reading of data) (paragraph [0074] Fig. 5 Step S105).

Claim 8: Imamura et al discloses a data storage device and control method as in claim 1 above and further comprising a communication unit that receives the first data, the second data, and the third data from the outside, and output the first data and the fourth data to the outside (paragraphs [0063], [0066], [0083], Fig. 27 step S1909).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a.   A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al (US 2002/0116551) in view of Matsuo et al (US 5974513).

> *Claim 9:* Imamura et al discloses a data storage device and control method as in claim 1 above, but does not explicitly discloses that the memory device is driven by an external electric power supply. However, Matsuo et al discloses an IC memory card having read/write inhibit capabilities, which furthers discloses that the memory device is driven by an external electric power supply (the memory control portion is always in the inhibit mode when electric power is supplied from outside) (column 2, lines 1-3). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to include a step of driven the memory device by an external electric power supply to Imamura et al 's disclosure. One would have been motivated to do so in order to reduce the power consumption.

5.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al (US 2002/0116551) in view of Chiba et al (US 4589064).

> *Claim 10:* Imamura et al discloses a data storage device and control method as in claim 1 above, but does not explicitly discloses that the first data area, the second data area, the third data area, and the fourth data area are divided into a plurality of sub data areas, respectively. However, Chiba et al discloses a

system for controlling key storage unit which controls access to main storage, which further discloses that the first data area is divided into a plurality of sub data areas each containing the first data, the first key data area is divided into a plurality of sub key data areas each containing the first key data, the second key data area is divided into a plurality of sub key registers each containing the second key data (the data processing apparatus includes a main storage unit and a key storage unit for storing a main storage protection key, a reference bit, and a change bit corresponding to each block of the main storage unit.) (Column 2, lines 6-10). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to divide store are in a plurality of sub data area. One would have been motivated to do so in order to prevent an unauthorized person to access the content of the device.

6.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al (US 2002/0116551) in view of Chiba et al (US 4589064) as applied to claim 10 above, and in further view of Yoshimaru (US 4641294).

   Claim 11: Imamura et al and Chiba et al disclose a data storage device and control method as in claim 10 above, while neither of them explicitly discloses that all the sub-data areas of the first data area have a same memory capacity. However, Yoshimaru discloses a device for performing a memory operation on a fixed length block of data on a memory disk, which further discloses that all the sub data areas of the first data area have a same memory capacity (there is

provided a memory disk apparatus wherein a plurality of track block having the

same track length is assigned to disk track) (column 1, lines 50-63). Therefore, it

would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the combined device of Imamura et al and Chiba

et al such that the device have a fixed memory capacity. The motivation of doing

so would have been to improve the recording density of data on the memory

disk.

7.   Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Imamura et al (US 2002/0116551) in view of Chiba et al (US 4589064) as applied

to claim 10 above, and in further view of Schwartz et al (US 4654781).

Claim 12: Imamura et al and Chiba et al disclose a data storage device and

control method as in claim 10 above, while neither of them explicitly discloses

that each of the sub data areas of the first data area has a different memory

capacity. However, Schwartz et al discloses a byte addressable memory for

variable length instruction and data, which further discloses that each of the sub

data areas of the first data area has a different memory capacity (twelve bytes of

digital information are listed illustrating a typical mixture of variable length

instructions with variable numbers of operand specifiers and variable size data

types which may be 8, 16, 32 or 64 bits long that may be stored in a memory

array) (column 4, lines 25-30). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify the

combined device of <u>Imamura et al</u> and <u>Chiba et al</u> such that the device have a variable memory capacity. The motivation of doing so would have been to achieve maximum utilization of the memory storage space available.

Claim 13: <u>Imamura et al</u> and <u>Chiba et al</u> disclose a data storage device and control method as in claim 10 above, while neither of them explicitly discloses that the memory capacity of each of the sub data areas of the first data area is set based on a length of data to be stored therein. However, <u>Schwartz et al</u> discloses a byte addressable memory for variable length instruction and data, which further discloses that the memory capacity of each of the sub data areas of the first data area is set based on a length of data to be stored therein (twelve bytes of digital information are listed illustrating a typical mixture of variable length instructions with variable numbers of operand specifiers and variable size data types which may be 8, 16, 32 or 64 bits long that may be stored in a memory array) (column 4, lines 25-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined device of <u>Imamura et al</u> and <u>Chiba et al</u> such that the device have a variable memory capacity. The motivation of doing so would have been to achieve maximum utilization of the memory storage space available.

8.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al (US 2002/0116551) in view of <u>Yasu et al</u> (US 5912849).

Claim 14: <u>Imamura et al</u> discloses a data storage device and control method as

in claim 1 above, but does not explicitly discloses that the first data area and the

second data area are composed of a ferroelectric memory that holds the data by

means of remnant polarization. However, <u>Yasu et al</u> discloses a write protection

device for a non-volatile memory, which furthers discloses that the data storage

area is composed of a ferroelectric memory (the ferroelectric memory is usable

as a RAM even though it is a non-volatile memory) (column 2, lines 53-55).

Therefore, it would have been obvious for one having ordinary skill in the art at

the time the invention was made to store the data in a ferroelectric memory in

<u>Imamura et al</u>'s disclosure. One would have been motivated to do so in order to

get at least one of the many advantages of the ferroelectric memory such as:

lower power usage, faster write speed and a much greater maximum number

(exceeding 1016 for 3.3 V devices), of write-erase cycles.

Response to Arguments

9.   Applicant's arguments filed September 13th, 2007 have been fully considered but

they are not persuasive.

Regarding Claims 1 and 15: The claims were rejected over <u>Chiba</u> in view <u>of Imamura</u>

<u>et al</u>. On pages 8 and 9 of the reply, applicant argued that "Chiba fails to disclose or

suggest that the encrypted data is also stored. Thus, Chiba fails to teach both the

unencrypted password and the encrypted password that are sent to the recipient are

stored in the memory device........... However, Imamura fails to cure deficiencies in

Chiba in disclosing or rendering obvious this feature because Imamura does not teach a

third data area that stores third data, a fourth data area that stores fourth data that are

obtained by encrypting the second data, wherein the third data is obtained by decrypting

the fourth data, as recited in the independent claims". However, upon closer review of

the references, it is submitted that the prior art of record discloses such feature.

First, Applicant is respectfully reminded that during patent examination, the pending

claims must be "given their broadest reasonable interpretation consistent with the

specification." (Phillips v. AWH Corp., 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir.

2005)). See MPEP 2111

Imamura et al discloses a third data area that stores third data (the medium identifier

recorded in the storage)(See paragraphs [0083], [0084], [0121], [0135]), a fourth data

area that stores fourth data that are obtained by encrypting the second data, wherein

the third data is obtained by decrypting the fourth data (a device identifier, an address

information, a password, etc.) to be recorded in the security area may be encoded to

enhance the secrecy) (See paragraphs [0122], [0123], [0125], [0131], [0167], [0168])),

as recited in the independent claims.

There is no new ground of rejection when the basic thrust of the rejection remains the

same. See In re Kronig, 539 F.2d 1300, 1302-03, 190 USPQ 425, 426-27 (CCPA 1976).

To the extent that the response to the applicant's arguments may have mentioned new

portions of the prior art references, which were not used in the prior office action, this

does not constitute new a new ground of rejection. It is clear that the prior art reference

is of record and has been considered entirely by applicant. See In re Boyer, 363 F.2d

455,458 n.2,150 USPQ 441,444, n.2 (CCPA 1966) and In re Bush, 296 F.2d 491,496,

131 USPQ 263,267 (CCPA 1961).

The mere fact that additional portions of the same reference may have been mentioned

or relied upon does not constitute new ground of rejection. In re Meinhardt, 392, F.2d

273,280, 157 USPQ 270, 275 (CCPA 1968). Accordingly, this office action is being

made final.

Therefore, the examiner submits that <u>Imamura et al</u> discloses each and every feature of

claims 1 and 15 and respectfully maintains the rejection.

Regarding 2, 3 and 5-14: The examiner still maintains the rejection using the same

rational as applied to claims 1 and 15 above.

Conclusion

10.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.
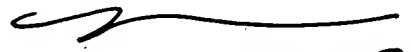
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fatoumata Traore whose telephone number is (571) 270-1685. The examiner can normally be reached Monday through Thursday from 7:00 a.m. to 4:00 p.m. and every other Friday from 7:30 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nassar G. Moazzami, can be reached on (571) 272 4195. The fax phone number for Formal or Official faxes to Technology Center 2100 is (571) 273-8300. Draft or Informal faxes, which will not be entered in the application, may be submitted directly to the examiner at (571) 270-2685.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-2100.

FT   Nassar G. Moazzami
Thursday October 25th, 2007   Supervisory Patent Examiner

10/26/07